

AMENDMENTS TO THE CLAIMS

1-23. (Cancelled)

24. (Currently Amended) A method for stimulating living tissue(s) with an electrical neurostimulator, the method comprising:

maintaining a plurality of stimulation sets of stimulation parameters with each set of stimulation parameters defining at least a pulse characteristic and an electrode configuration in memory of the neurostimulator;

maintaining a repetition parameter for at least one of the plurality of stimulation sets in memory of the neurostimulator, wherein the repetition parameter identifies a number of times that a pulse is to be repeated in a consecutive manner for the at least one stimulation set; and

stimulating living tissue(s) using a substantially continuous set of pulses wherein the stimulating includes (i) successively selecting a stimulation set from the plurality of stimulation sets in a cyclical manner; (ii) generating a pulse according to the pulse characteristic of the selected stimulation set; and (iii) delivering the generated pulse to living tissue(s) through electrodes according to the electrode configuration of the selected stimulation set;

wherein the stimulating repeats the generating and delivering for the at least one of the plurality of stimulation sets according to the repetition parameter in a consecutive manner ~~within each stimulation cycle independent from one or several frequency parameters associated with the plurality of stimulation sets.~~

25. (Previously Presented) The method of claim 24 further comprising:

maintaining a skipping parameter for a second stimulation set of the plurality of stimulation sets;

wherein the stimulating omits performing the generating and delivering for the second stimulation set for a number of consecutive cycles within a predetermined number of cycles according to the skipping parameter.

26. (Previously Presented) The method of claim 24 wherein the pulse characteristic is a pulse amplitude.

27. (Previously Presented) The method of claim 24 wherein the pulse characteristic is a pulse width.

28. (Currently Amended) An electrical neurostimulator for stimulating living tissue, comprising:

memory storing a plurality of stimulation sets of stimulation parameters with each set of stimulation parameters defining at least a pulse characteristic and an electrode configuration;

the memory further storing a repetition parameter for at least one of the plurality of stimulation sets, wherein the repetition parameter identifies a number of times that a pulse is to be repeated in a consecutive manner for the at least one stimulation set;

a pulse generator that outputs a pulse having a pulse characteristic; and

a microprocessor operating under executable instructions that:

(i) successively selects a stimulation set from the plurality of stimulation sets in a cyclical manner;

(ii) loads the pulse characteristic into a pulse control associated with the pulse generator;

(iii) configures an output switch matrix according to the electrode configuration of the selected stimulation set;

(iv) causes the pulse generator to output at least one pulse after the loading and configuring, wherein the microprocessor causes the pulse generator to generate adjacent pulses according to a frequency parameter; and

(v) when the selected stimulation set is the at least one stimulation set associated with the repetition parameter, repeating (iv) according to the repetition parameter within a stimulation cycle ~~independent from the frequency parameter.~~

29. (Previously Presented) The electrical neurostimulator of claim 28 wherein the memory further stores a skipping parameter for a second stimulation set of the plurality of stimulation sets; and

wherein the microprocessor is further operable to omit selecting the second stimulation set for a number of consecutive cycles within a predetermined number of cycles according to the skipping parameter.

30. (Previously Presented) The electrical neurostimulator of claim 28 wherein the pulse characteristic is a pulse amplitude.

31. (Previously Presented) The electrical neurostimulator of claim 29 wherein the pulse characteristic is a pulse width.

32. (New) A method for stimulating living tissue(s) with an electrical neurostimulator, the method comprising:

maintaining a plurality of stimulation sets of stimulation parameters with each set of stimulation parameters defining at least a pulse characteristic and an electrode configuration in memory of the neurostimulator;

maintaining a repetition parameter for at least one of the plurality of stimulation sets in memory of the neurostimulator, wherein the repetition parameter identifies a number of times that a pulse is to be repeated within a single cycle through the plurality of stimulation sets; and

stimulating living tissue(s) using a substantially continuous set of pulses wherein the stimulating includes (i) successively selecting a stimulation set from the plurality of stimulation sets in a cyclical manner; (ii) generating a pulse according to the pulse characteristic of the selected stimulation set; and (iii) delivering the generated pulse to living tissue(s) through electrodes according to the electrode configuration of the selected stimulation set;

wherein the stimulating generates and delivers each adjacent pulse within a single stimulation cycle through the plurality of stimulation sets using a fixed interval;

wherein the stimulating repeats the generating and delivering for the at least one of the plurality of stimulation sets to generate and deliver a number of pulses equal to the repetition parameter within the single stimulation cycle.

33. (New) The method of claim 32 further comprising:
maintaining a skipping parameter for a second stimulation set of the plurality of stimulation sets;

wherein the stimulating omits performing the generating and delivering for the second stimulation set for a number of consecutive cycles within a predetermined number of cycles according to the skipping parameter.

34. (New) The method of claim 32 wherein the pulse characteristic is a pulse amplitude.

35. (New) The method of claim 32 wherein the pulse characteristic is a pulse width.